

114TH CONGRESS  
1ST SESSION

# S. 1241

To provide for the modernization, security, and resiliency of the electric grid, to require the Secretary of Energy to carry out programs for research, development, demonstration, and information-sharing for cybersecurity for the energy sector, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

MAY 7, 2015

Ms. CANTWELL introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To provide for the modernization, security, and resiliency of the electric grid, to require the Secretary of Energy to carry out programs for research, development, demonstration, and information-sharing for cybersecurity for the energy sector, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-  
2 tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Enhanced Grid Secu-  
5 rity Act of 2015”.

6 **SEC. 2. DEFINITIONS.**

7       In this Act:

1                             (1) DEPARTMENT.—The term “Department”  
2 means the Department of Energy.

3                             (2) ELECTRIC UTILITY.—The term “electric  
4 utility” has the meaning given the term in section  
5 3 of the Federal Power Act (16 U.S.C. 796).

6                             (3) ES-ISAC.—The term “ES-ISAC” means  
7 the Electricity Sector Information Sharing and  
8 Analysis Center.

9                             (4) NATIONAL LABORATORY.—The term “Na-  
10 tional Laboratory” has the meaning given the term  
11 in section 2 of the Energy Policy Act of 2005 (42  
12 U.S.C. 15801).

13                             (5) SECRETARY.—The term “Secretary” means  
14 the Secretary of Energy.

15                             (6) SECTOR-SPECIFIC AGENCY.—The term  
16 “Sector-Specific Agency” has the meaning given the  
17 term in the Presidential policy directive entitled  
18 “Critical Infrastructure Security and Resilience”,  
19 numbered 21, and dated February 12, 2013.

20 **SEC. 3. DESIGNATION OF DEPARTMENT OF ENERGY AS**  
21                                     **SECTOR-SPECIFIC AGENCY FOR CYBERSECU-**  
22                                     **RITY FOR THE ENERGY SECTOR.**

23                             In accordance with the Presidential policy directive  
24 entitled “Critical Infrastructure Security and Resilience”,  
25 numbered 21, and dated February 12, 2013, and this Act,

1 the Department shall be the lead Sector-Specific Agency  
2 for cybersecurity for the energy sector.

3 **SEC. 4. CYBERSECURITY FOR THE ENERGY SECTOR RE-**  
4 **SEARCH, DEVELOPMENT, AND DEMONSTRA-**  
5 **TION PROGRAM.**

6 The Secretary, in consultation with appropriate Fed-  
7 eral agencies, the energy sector, the States, and other  
8 stakeholders, shall carry out a program—

9 (1) to develop advanced cybersecurity applica-  
10 tions and technologies for the energy sector—

11 (A) to identify and mitigate vulnerabilities,  
12 including—

13 (i) dependencies on other critical in-  
14 frastructure; and

15 (ii) impacts from weather, climate  
16 change, and fuel supply; and

17 (B) to advance the security of field devices  
18 and third-party control systems, including—

19 (i) systems for generation, trans-  
20 mission, distribution, end use, and market  
21 functions;

22 (ii) specific electric grid elements in-  
23 cluding advanced metering, demand re-  
24 sponse, distributed generation, and elec-  
25 tricity storage;

(iii) forensic analysis of infected systems; and

(iv) secure communications;

(3) to perform pilot demonstration projects with the energy sector to gain experience with new technologies; and

(4) to develop workforce development curricula for energy sector-related cybersecurity.

## 14 SEC. 5. ENERGY SECTOR COMPONENT TESTING FOR 15 CYBERRESILIENCE PROGRAM.

16 The Secretary shall carry out a program—

20 (2) to oversee third-party cybertesting; and

(3) to develop procurement guidelines for energy sector supply chain components.

## 23 SEC. 6. ENERGY SECTOR OPERATIONAL SUPPORT FOR 24 CYBERRESILIENCE PROGRAM.

25 The Secretary shall carry out a program—

## 18 SEC. 7. MODELING AND ASSESSING ENERGY INFRASTRUC- 19 TURE RISK.

20       (a) IN GENERAL.—The Secretary shall develop an  
21 advanced energy security program to secure energy net-  
22 works, including electric, natural gas, and oil exploration,  
23 transmission, and delivery.

24 (b) SECURITY AND RESILIENCY OBJECTIVE.—The  
25 objective of the program developed under subsection (a)

1 is to increase the functional preservation of the electric  
2 grid operations or natural gas and oil operations in the  
3 face of natural and human-made threats and hazards, in-  
4 cluding electric magnetic pulse and geomagnetic disturb-  
5 ances.

6 (c) ELIGIBLE ACTIVITIES.—In carrying out the pro-  
7 gram developed under subsection (a), the Secretary may—

8 (1) develop capabilities to identify  
9 vulnerabilities and critical components that pose  
10 major risks to grid security if destroyed or impaired;

11 (2) provide modeling at the national level to  
12 predict impacts from natural or human-made events;

13 (3) develop a maturity model for physical secu-  
14 rity and cybersecurity;

15 (4) conduct exercises and assessments to iden-  
16 tify and mitigate vulnerabilities to the electric grid,  
17 including providing mitigation recommendations;

18 (5) conduct research hardening solutions for  
19 critical components of the electric grid;

20 (6) conduct research mitigation and recovery  
21 solutions for critical components of the electric grid;  
22 and

23 (7) provide technical assistance to States and  
24 other entities for standards and risk analysis.

1   **SEC. 8. LEVERAGING EXISTING PROGRAMS.**

2       The programs established under this Act shall be car-  
3       ried out consistent with—

4           (1) the report of the Department entitled  
5       “Roadmap to Achieve Energy Delivery Systems Cy-  
6       bersecurity” and dated 2011;

7           (2) existing programs of the Department; and  
8           (3) any associated strategic framework that  
9       links together academic and National Laboratory re-  
10      searchers, electric utilities, manufacturers, and any  
11      other relevant private industry organizations.

12   **SEC. 9. STUDY.**

13       (a) IN GENERAL.—Not later than 180 days after the  
14      date of enactment of this Act, the Secretary, in consulta-  
15      tion with the Federal Energy Regulatory Commission and  
16      the North American Electric Reliability Corporation, shall  
17      conduct a study to explore alternative management struc-  
18      tures and funding mechanisms to expand industry mem-  
19      bership and participation in ES-ISAC.

20       (b) REPORT.—The Secretary shall submit to the ap-  
21      propriate committees of Congress a report describing the  
22      results of the study conducted under subsection (a).

1 **SEC. 10. AUTHORIZATION OF APPROPRIATIONS.**

2        There is authorized to be appropriated to carry out  
3 this Act \$100,000,000 for each of fiscal years 2017  
4 through 2022.

